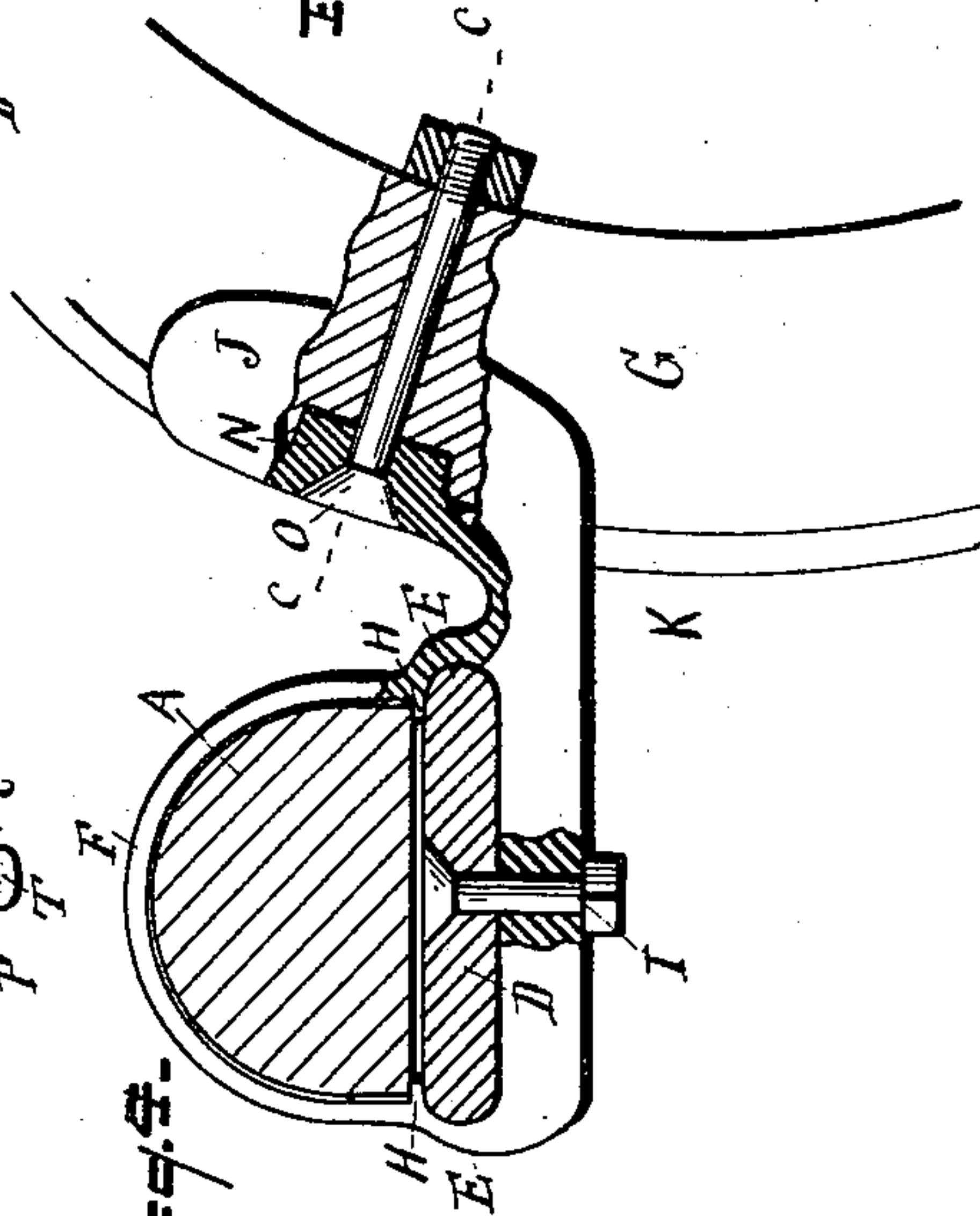
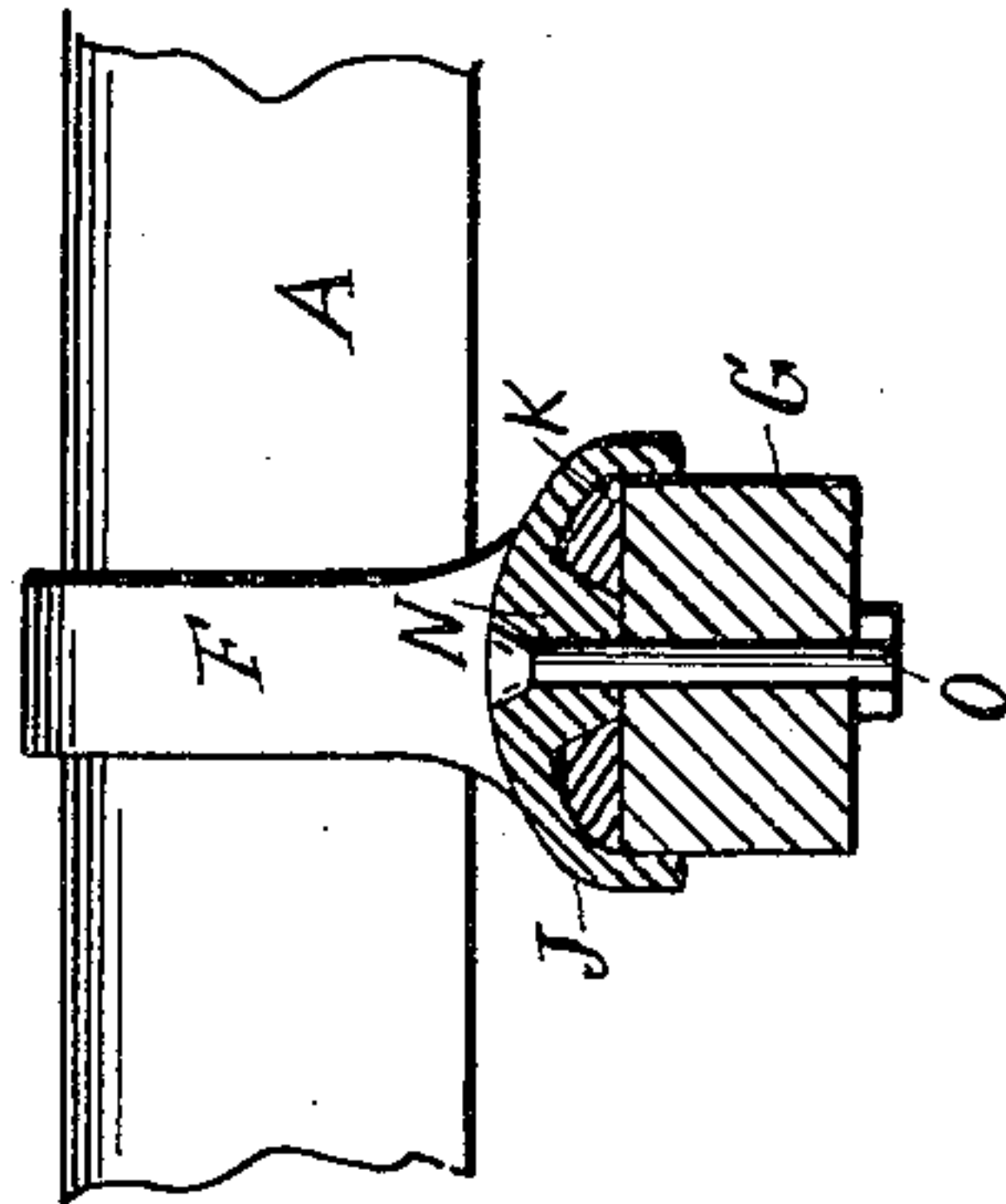
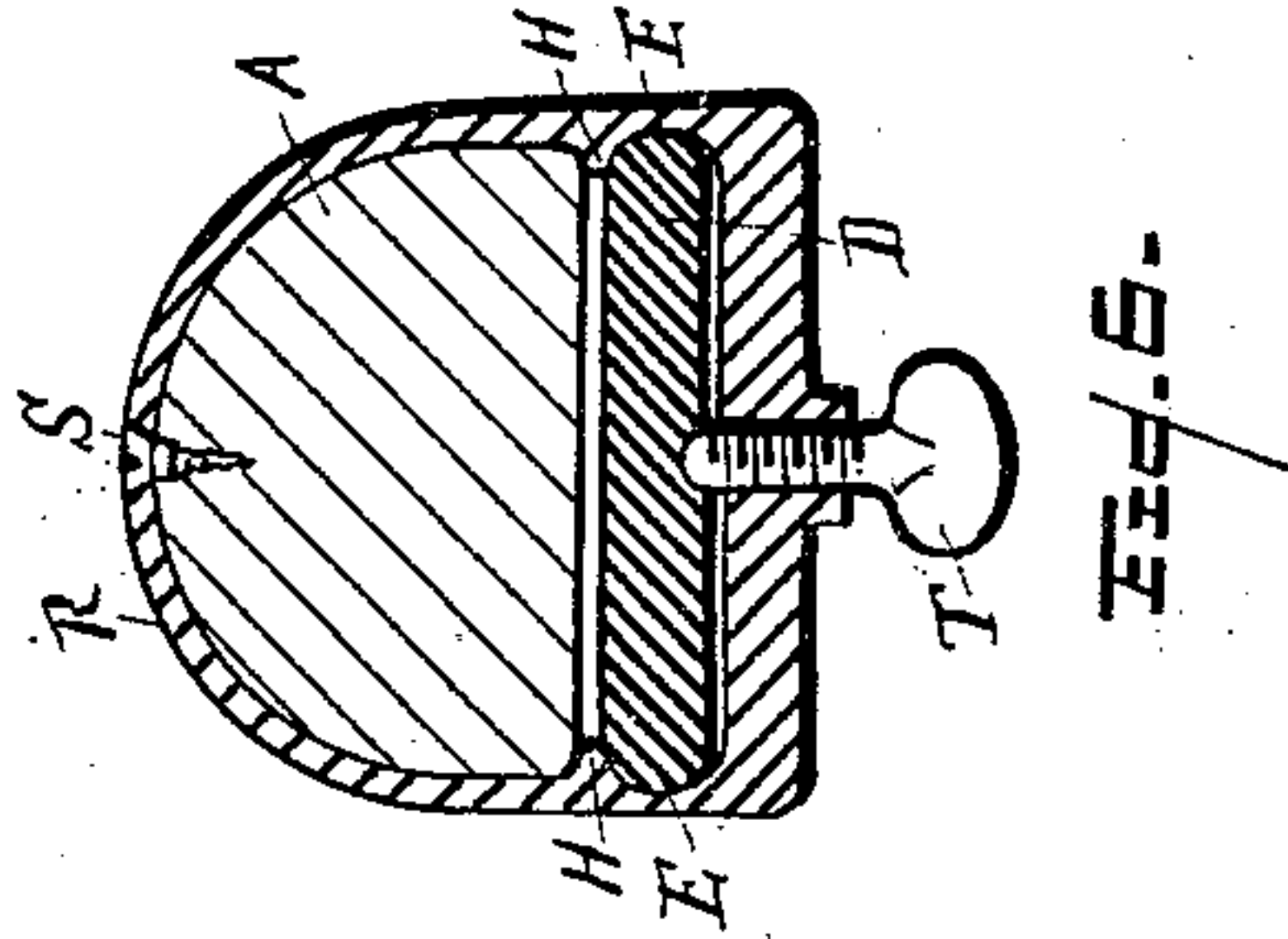
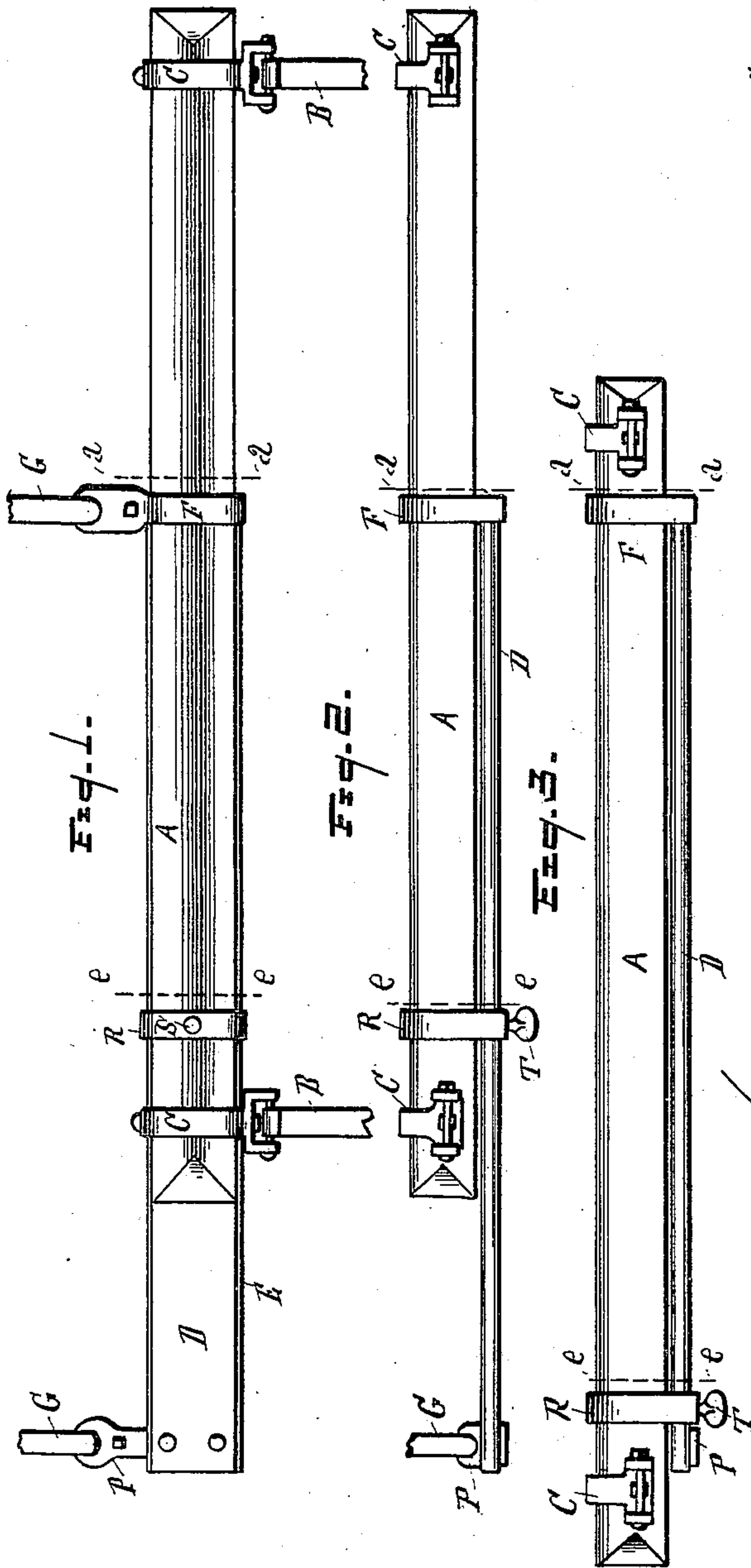


(No Model.)

J. B. STANLEY.  
SHIFTING THILLS.

No. 547,040.

Patented Oct. 1, 1895.



WITNESSES  
S. C. Thomas  
Levi H. Cory

INVENTOR  
James B. Stanley  
By Lucius C. West.  
attly



# UNITED STATES PATENT OFFICE.

JAMES B. STANLEY, OF KALAMAZOO, MICHIGAN, ASSIGNOR OF ONE-HALF  
TO OSCAR F. MEAD, OF SAME PLACE.

## SHIFTING THILLS.

SPECIFICATION forming part of Letters Patent No. 547,040, dated October 1, 1895.

Application filed December 17, 1894. Serial No. 532,049. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. STANLEY, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Thill-Shifter, of which the following is a specification.

This invention has for its object certain improvements in the plan of constructing and attaching shifting-bars to cutters, the purpose of which bars is to enable the thills to be adjusted so the horse can travel in one of the side tracks made by the runners, or in the center between the tracks, all as more fully set forth and claimed below.

In the drawings, forming a part of this specification, Figure 1 is a plan view showing the bars adjusted for the horse to travel in one of the side tracks; Fig. 2, a front elevation of Fig. 1; Fig. 3, same as Fig. 2, with bars adjusted for the horse to travel in the center between the tracks; Fig. 4, a section near line *a a* in Figs. 1, 2, and 3, enlarged, looking from a point at the right; Fig. 5, a section on line *c c* in Fig. 4, looking from a point above; and Fig. 6 is a section near line *e e* in Figs. 1, 2, and 3, looking from a point at the right.

Referring to the lettered parts of the drawings, A is a wooden bar to which the thills are attached by means of the eyed clips C, in the ordinary manner, Fig. 1, the broken thill-irons being shown at B. This bar A is rounded on top and flat on the under side, Figs. 4 and 6. Beneath the wooden bar A is a metal bar D, which bar D is slightly wider than the wooden bar A and is rounded at the edges at E, Figs. 4 and 6.

The terms "wooden" and "metal," as applied to the bars A and D, describe them as they are usually made; but the particular material employed is of course a matter of choice.

In Figs. 4 and 5 is shown a clip-bracket F, through which the wooden bar A loosely passes. In the base of this clip-bracket F is formed a recess with concave ends conforming to the shape of the metal bar D, and provided with shoulders H between the loop part and the recess, upon which shoulders the wooden bar A rests and beneath which are the widened rounded edges of the metal bar D. One end

of the metal bar D is rigidly attached to the clip-bracket F, right-hand end in Figs. 1, 2, and 3 by a countersunk bolt I, Fig. 4. The clip-bracket F is also provided with an integral upwardly-extended end J, formed on the inside to fit the rounded surface of the face-iron K of the cutter-runners G, Figs. 4 and 5. The end J of the clip-bracket F is provided with an interior lug N, which lug enters a hole in the face-iron K of the runner G. A countersunk bolt passes through the end J, lug N, and the runner G, said bolt being shown at O. By this plan the clip-bracket F is securely attached to the runner G by simple and cheaply-devised means. A bracket P is rigidly attached to the other end of the metal bar D and to the other runner G, and the construction of that part of said bracket P, which attaches to the runner, is the same as illustrated in Figs. 4 and 5, above described.

In Fig. 6 is shown a clip R, which surrounds the wooden bar A, and is rigidly attached thereto by a screw or lug S, while the metal bar D passes loosely through the recess in the base of said clip. This clip R has a like recess and shoulders H as those shown in Fig. 4 in the clip-bracket F. The clip R has a set-screw T in the lower side beneath the metal bar D, which set-screw engages indentations in the under side of said bar to lock the bars at their different shifted positions. To illustrate, referring to Fig. 3, the bars are at the proper position for the horse to travel between the two tracks made by the runners G of the cutter, and the set-screw T is set, as in Fig. 6, locking the bars in this position. Now by loosening the set-screw T the thills B, with the wooden bar A can be shifted to the right, as in Figs. 1 and 2, and the set-screw T be locked again, as in Fig. 6, so that the horse will travel in one of the side tracks made by the runners. During this action of shifting the bars the wooden bar A will slide in the loop of the clip-bracket F, and the clip R will slide on the bar D.

It will be found in some instances that the set-screw may be dispensed with, or that other locking means may be substituted in lieu thereof.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A thill-shifter, comprising a cross-bar to which the thills are attached, another bar and brackets rigidly attached to each end thereof, said brackets having a portion fitting the face of the runners of the cutter, and having an interior lug fitting a hole in said runners, bolts passing through the runners, lugs and brackets, one of said brackets having a loop loosely confining the cross-bar, and a clip rigidly attached to said cross-bar, and loosely confining the other bar, substantially as set forth.

2. In a thill-shifter, the combination with the two lapping bars and a cutter, of the clip-

bracket having a loop loosely confining the upper bar, shoulders beneath said bar, a recess beneath the shoulders adapted to receive the lower bar, a counter-sunk bolt rigidly attaching said bar to the clip-bracket, and having an upwardly extended portion adapted to fit the face of the runner, said portion having an interior lug fitting a hole in said runner, and a bolt passing through the bracket, lug, and runner, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in the presence of two witnesses.

JAMES B. STANLEY.

Witnesses:

LEVI F. COX,

EDWARD D. CHASE.